

p. 212. It requires a Charles Kingsley to carry such remarks off lightly. The Romans in Britain are shown in the usual colours, but we must remember that even the modern English are not loved as predominant partners and invaders. The Mediterranean race, however, here styled Picts, comes off fairly well, even when invading; but we fancy that too little credit is given to it for moulding the so-called Celtic modern Irishman.

The spirited illustrations, by Messrs. L. Speed and J. F. Campbell, will favourably attract the eyes of parents and guardians. The map of Britain opposite p. 226 contains too great a mixture of languages, and does not give a picture of any special epoch. This, however, can be remedied in school libraries, and we confess that we should like to conduct a class through Mr. Scott Elliot's volume, with the aid of a good atlas and a fortnight of excursions in the field. Those would indeed be happy days for all of us.

G. A. J. C.

#### THE ARCHÆOLOGICAL SURVEY OF NUBIA.

THE objects of the archæological survey of Nubia which has been undertaken by the Government of Egypt are, first, to ascertain the extent and value of the historical material buried under the soil; secondly, to make this material available for the reconstruction of the early history of that country and of its relations with the Nile valley. There is reason to believe that in the pre-dynastic period Lower Nubia formed with Egypt a single region of culture, and possibly a single ethnological district. Later on the northern lands developed more rapidly, and Nubia failed to keep pace with Egypt. At any rate, when the Egyptians pushed southwards under the twelfth dynasty, some of the products of Nubian civilisation are found closely to resemble, in technique and material, products of the pre-dynastic age common to both countries. The present survey aims at reconstructing the culture development of some fifteen centuries of Nubian civilisation which at present are a blank.

The first and second Bulletins, recently issued, supply a preliminary account of investigations in the district which, owing to the re-modelling of the Aswan dam, will now be permanently submerged. This archæological material would, in default of such an inquiry, have been permanently lost to science.

The survey illustrates the variety of races and culture which prevails within this area. We have a succession of interments starting from the archaic period through post-Roman, Christian, and Moslem times. The extensive denudation which has occurred has exposed the burials of the earliest age. One group of later graves contains a number of male negro bodies, most of whom met their death by hanging or decapitation—doubtless the record of a tragedy which followed one of the local revolts so frequent during the Roman or Byzantine occupations of the country.

The survey of these cemeteries, conducted by Dr. G. A. Reisner, is supplemented by a very valuable anatomical report by Drs. Elliot Smith and F. Wood Jones, which illustrates the complexity of the ethnological materials now under detailed examination. From the earliest predynastic times down to the early dynastic, the whole region, according to Dr. Reisner, was characteristically Egyptian in culture; and the race occupying it is believed by Prof. Elliot Smith to be pure Egyptian. At a later period the population became isolated from Egyptian influence, and therefore assimilated Negroid elements. We find some contracted burials of the Egyptian predynastic

period, corpses of pure and half-bred negroes, while the majority of the bodies examined conform to a quite different physical type, the origin of which we have to seek in Syria and the south-eastern shores of Europe. The remains are in most cases excellently preserved, being packed with salt and fruits of certain plants not yet identified, and then wrapped in coarse cloth. Some of these persons, even one who bore on his arm a wooden cross as the emblem of the Christian faith, had been circumcised. Other interments, again, appear from the anatomical evidence to represent family burial places, the structural identity of the occupants being remarkably apparent. In one case, that of a young woman, the cause of death was plainly appendicitis; in another, long-standing pleuritic adhesions, and in a third osteoarthritis, so-called rheumatic gout, were identified. This is the disease which shows itself with the greatest frequency in the bodies of all periods. The older skulls show no signs of dental caries, except in the case of the "milk" teeth of three children, which is believed to be the first recorded occurrence of dental caries in an ancient Egyptian or Nubian under the age of sixteen; but this is common in the foreign Christian group. The discovery of a case of tuberculosis in the Biga cemetery is exceptionally interesting, the only other known early Egyptian instance of this disease being that of a corpse of an infant from the ancient Empire burying-ground at the Giza pyramids, which presented the typical lesion of advanced hip disease which may have been of the tubercular type. But this is not quite certain, because tubercle bacilli have not been as yet definitely traced, and Dr. A. R. Ferguson is disposed to doubt the diagnosis of tubercular lesions. The same is the case with syphilitic lesions. Dr. Elliot Smith has never observed a case in ancient Egyptian bones, and regards most of the instances hitherto reported as due to the post-mortem destruction of the bones by beetles. It is also remarkable that there is no occurrence of tattooing so common in modern times, nor of the custom of skin gashing, which is almost universal in Nubia and the Sudan at the present time.

The present Bulletin is intended merely to describe some of the facts which have been elicited in the course of a summary investigation of the great mass of ethnological material unearthed by Dr. Reisner. It will be followed by a detailed archæological and anatomical report, the appearance of which will be awaited with interest. Meanwhile the anatomical and craniometrical observations by Dr. Elliot Smith, and Dr. Wood Jones's pathological report, supply a large amount of fresh anthropological material.

The Government of Egypt deserves congratulations for the initiation of a most important survey, which will supply abundant materials from which the archæological and ethnological conditions of a hitherto unexplored region can be safely reconstructed.

#### HIMALAYAN PHYSIOGRAPHY.<sup>1</sup>

IN response to a proposal made in 1906 by the "Board of Scientific Advice" to the Survey of India that a paper should be compiled "summarising the geographical position of the Himalayas and Tibet" for the benefit of travellers in those regions, a series of papers on these parts has been issued which is not only of great scientific value in itself, but will surely answer the purpose of directing scien-

<sup>1</sup> "A Sketch of the Geography and Geology of the Himalayan Mountains and Tibet." By Col. S. G. Burrard, R.E., F.R.S., and H. H. Hayden. (Calcutta: Superintendent of Government Printing, 1907.) 3 Parts, price Rs. 2 each.

tific research towards the elucidation of many problems which beset the study of high altitudes.

The combination of authorship is sufficient indication of the recognition of the close intimacy which exists between geography and geology. The three parts now issued are generally geographical in their purpose; a fourth which is to follow is more strictly geological.

Part i. deals with the subject of Asiatic peaks, and is an admirable summary of existing knowledge about them. We have a most interesting series of notes on their altitude, constitution, names, distribution, and geology. "The determination of their position and heights is the first step on the ladder of geographical knowledge," says Col. Burrard, and the fundamental part which they play in the making of maps and in the evolution of a scientific conception of the configuration of mountain systems is well illustrated. In spite of the increase of local knowledge which must be the result of closer and more intimate exploration, every geographer will agree with Col. Burrard's appeal for the retention of well-known names with no unnecessary and pedantic changes of spelling, or constant correction of altitudes, in our maps. As regards the altitudes, however, it might be well to consider whether the figures finally adopted might not be reduced to round numbers. All the difficulties attending the determination of great altitudes are touched upon by Col. Burrard, and when we consider the errors which may arise from a wrong estimation of corrections due to refraction; from local deflection of the level; from the varying depths of snow overlying the peak; or even from that elusive quantity, mean sea-level; we may fairly ask whether we are justified in crystallising the height of Mount Everest, for instance, at 29,003 feet instead of rendering it in terms (so much easier to remember) of 29,000.  $K_2$  at 28,250 is satisfactory, but Kinchinjunga at 28,146 would surely be better at 28,150. A strict adherence to the mean value deduced from all observations taken is no doubt necessary as an official record, but its introduction into the ordinary map does certainly tend towards a false impression of minute accuracy.

Part ii. deals with mountain ranges and their conformation, and in this part we think that the geographical element has been too much subordinated to geology. Col. Burrard's theories of the original formation of the gigantic uplands and hills of Asia is beyond criticism. They have long been accepted as the fundamental explanation of mountain structure, and we welcome with thankfulness a plain and simple statement of those general principles which govern the relationship between water partings and ranges; by which mountain folds have been arranged in orderly lines, determining the main features of any great system—only to be cut to pieces and re-shaped into what appears to be haphazard irregularity by denudation and river action. But the geographer can

hardly treat these latter phases of mountain construction with such scant respect as the geologist. Like the map-maker, who first defines all his river courses and then fills in the mountains between, he maintains that it is the river and valley which is of paramount economic importance; and if two rivers between them carve out a range in a direction absolutely transverse to the original tectonic folds, that such a range for all practical purposes may be vastly more important than the battered, undermined, and disintegrated granite core which formed the axis of the primeval fold, but which is now only to be recognised by the magnificence of its detached (but duly aligned) groups of gigantic peaks. To put it shortly, Col. Burrard maintains that inasmuch as the groups of highest peaks which follow an orderly curve through the length of the Himalaya indicate the main range of the system, this fact should be emphasised in topographical maps rather than main water partings or river systems. Scientifically, doubtless, this may be correct, but the travelling public for whom maps are made will, we fear, still fail to see with the eye of scientific faith, and will continue to believe the out-

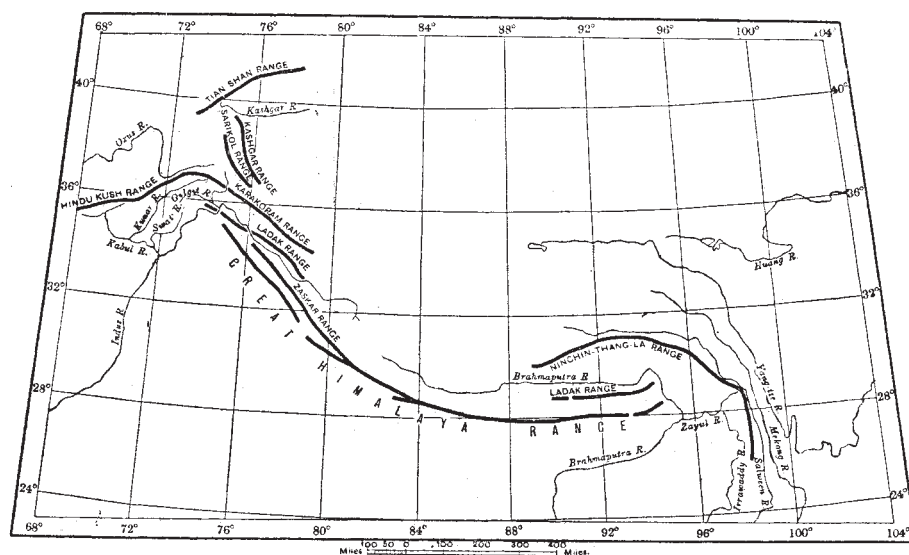


Chart to illustrate how the Great Himalaya range terminates: first at the Indus, and secondly at the Brahmaputra.

ward and visible evidence that these peaks are on spurs emanating from a main water-parting.

There is also great difficulty in determining the exact position of some of these great structural folds. Col. Burrard has apparently encountered this difficulty, for the letterpress at p. 123, part iii. (dealing with river systems), hardly tallies with Fig. 2 of chart xxi. in part ii. Assuming that Col. Burrard includes the Ghorband drainage with that of the Panjshir in the former (which we must do), the southern ridge, or fold, of the Hindu Kush trough gets mixed up with the continuation of the "Kailas" fold as depicted in the latter. Nor can we accept the statement as altogether proven that the Hari Rud valley represents a primeval tectonic trough and not the result of subsequent erosion. Col. Talbot (who surveyed the valley) believed it to be the latter, and there is certainly no trace of a crystalline core to the ranges north and south of the Hari Rud. It is not altogether out of place to note that the assumption of a double range for the Hindu Kush may lead to serious political complications. If this double range exists, what becomes of our boundary (at present

undemarcated except by nature) with Afghanistan? It is defined by the main water parting of the Hindu Kush. Which is to be the main water parting?

One more small criticism must be permitted ere we close a sketchy notice of a work so valuable as to require serious and well-considered analysis. The use of a publication of this sort to the ordinary traveller is largely limited by its portability. In its present form it would hardly serve the purpose of the mountaineer, who must before all things consider size, weight, and general handiness; and yet it is specially written for the mountaineer. Most of the illustrations (which probably govern the size of the issue) could be reduced to one-quarter their present size, and the rest could be folded in a separate pocket. It is much to be hoped that this treatise will have a wide circulation, but there is too much of the regular official "Survey of India" type of publication about it for general use in its present form. T. H. H.

#### ANNIVERSARY MEETING OF THE ROYAL SOCIETY.

THE anniversary meeting of the Royal Society was held as usual on St. Andrew's Day, November 30, at Burlington House. The report of the council was presented, in which reference was made to the chief subjects to which attention had been given during the year. As Lord Rayleigh expressed the desire to resign the presidency, the council submitted the name of Sir Archibald Geikie, K.C.B., for election into the office of president. To fill the vacancy thus created it was proposed to transfer the foreign secretary, Prof. J. R. Bradford, into the office of principal secretary, and to elect Sir William Crookes as foreign secretary. The officers, and also the other members of the council whose names were given in *NATURE* of November 5 (p. 15), were elected at the annual meeting. Among other matters mentioned in the report of the council of the Society we notice the following:—

Two volumes have been issued descriptive of the physical work of the National Antarctic Expedition. During the expedition a large number of photographs were taken of the scenery and physical features, partly also of the biology of the regions visited, while Mr. E. A. Wilson made many careful drawings of the various coast-lines that were passed. Although certain of these photographs have already been reproduced in some of the reports and other works descriptive of the expedition, it was decided to publish an ample and thoroughly illustrative series of both the photographs and the sketches, accompanied with maps which should show the precise position of each spot from which a panoramic photograph or sketch had been taken. Future explorers will thus be helped to note any changes which may affect the snow-fields, glaciers, ice-barriers, or other features, while the general public will be put in possession of a remarkably striking series of views of Antarctic scenery and life. Accordingly, an Antarctic album and portfolio have been prepared by Mr. Wilson under the supervision of the committee, and are now nearly ready for publication.

Within the last few weeks Dr. Mond has directed the attention of the officers of the society to the desirability of further acceleration of the catalogue of scientific papers. As the result of conferences with the officers and the director of the catalogue, he has undertaken to increase his previous generous subventions by a sum of 2000l. on condition that the society fall in with his suggestion that additional expert assistance be employed to deal with the arrangement of the material for the subject indexes, and an effort be thus made to finish the index volumes for mechanics, physics, and chemistry within two or three years.

In April a letter was received from the Home Office on the subject of the disease known as glass-workers' cataract, inquiring whether elucidation of the cause of the disease and its remedy, in the light of the physical and physio-

logical problems involved, could be made the subject of an inquiry by a committee of the Royal Society. After full consideration the council appointed a committee to inquire into and report on this subject.

Changes have been made in the regulations as to grants for scientific investigations. In order that applicants may be informed earlier in the year of the decisions of the Government Grant Committee with regard to grants, the regulations now provide that applications shall be received not later than January 1, and it is therefore hoped that it may be possible for the general committee to meet at some time before the end of March instead of in May.

In 1870 the society placed in the hands of Sir William Huggins, on loan, an equatorial mounting and twin telescopes, purchased by means of the Oliveira bequest, which was to be expended on a telescope. As was announced in last week's *NATURE* (p. 114), Sir William Huggins is unable now to make such use of the instruments as would justify him in retaining them. A new home for the instruments has been found, therefore, at the University of Cambridge.

At the end of last year a letter was received from the Colonial Office asking the society to advise in detail as to means for carrying out the further researches recommended by the tropical diseases committee, as specified in the last report to the council. At the invitation of the committee Colonel Sir David Bruce has undertaken the supervision of further investigations in Uganda, and sailed in September last.

The scheme for the establishment of an International Central Bureau in connection with sleeping sickness, referred to in the last report, having fallen through, H.M. Government decided to establish a National Bureau in London, to be administered on similar lines, the cost being defrayed from Imperial funds, including a contribution from the Sudan. The bureau was definitely established in June last, one of the society's rooms being placed at its disposal at the request of the Colonial Office.

In his presidential address Lord Rayleigh referred to the heavy losses by death sustained by the Society among its fellows and foreign members. Particular reference was made to Lord Kelvin, Sir Richard Strachey, Dr. Sorby, and Sir John Evans as having passed away since the last anniversary meeting. These and other main subjects of the address are here summarised:—

We are fortunate in having secured for our Proceedings a review of Kelvin's life and work, written by one who is especially well qualified for the difficult task. I do not doubt that Prof. Larmor is right in placing in the forefront of that work those fundamental advances in thermodynamics which date from the middle of the last century. It was Kelvin who first grasped the full scope of the principle known as the second law, a law which may indeed well be considered to stand first in order of importance, regarded from the point of view of man's needs and opportunities.

My acquaintance with Kelvin was limited, until about 1880, a time when I was occupied with measurements relating to the electrical units, and received much appreciated encouragement. From then onwards until his death I enjoyed the privilege of intimacy and, needless to say, profited continually from his conversation, as I had done before from his writings.

Dr. Sorby belonged to a class on whom England has special reason to congratulate herself, men who pursue science unprofessionally. The names of Cavendish, Young, Joule, and Darwin at once suggest themselves. It is to be feared that specialisation and the increasing cost and complication of experimental appliances are having a prejudicial effect in this regard. On the other hand, the amateur is not without advantages which compensate to some extent. Certainly, no one who has the root of the matter in him should be deterred by fears of such difficulties, and the example of Sorby suffices to show how much is open to ingenuity unaided by elaborate appliances.

On the foreign list also the losses are heavy. We have especially to condole with our colleagues in France upon the havoc caused by death within the last year or two. Janssen and Mascart, who was much missed at the recent